



MODEL

UP-22D

Universal Control Panel



- Remote or Local Valve Operation
- UL 508A Control Panel
- Supports both AC/DC solenoids
- NEMA 4X Stainless Steel Enclosure
- Panel Mount VC-22D Valve Controller
- High accurate and stable valve control
- AC Filter and fuse protection



Product Description

The Cla-Val UP-22D is designed to provide state of the art valve control for a variety of fluid control parameters. The UP-22D is supplied with a NEMA 4X stainless steel enclosure and supports both AC and DC solenoid applications. The VC-22D Valve Controller is mounted on an interior sub panel isolating the technician from field wiring. The UP-22D is supplied with an AC noise filter and 60W 24VDC power supply. Additionally, all inputs and outputs are fused, protecting against over currents.

For ease of use, the VC-22D valve controller is pre-loaded with a wide variety of typical valve applications (ValvApp™). Additional custom ValvApps™ can be created by Cla-Val to meet any operation requirement. For example 2 or 3 modulating control functions can be combined into one custom ValvApp™.

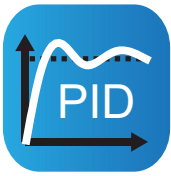


Pre-Loaded Typical ValvApps™ include:

- Flow Control with Mag Meter or e-Flowmeter Feedback
- Pressure Control with Upstream or Downstream Feedback
- Position Control with Position Feedback
- Modulating Level Control with Level and Position or Flow Feedback
- Metering Valve with Position and DP or P1-P2 Feedback
- Ratio Control with 2 Flowmeter feedbacks
- Altitude On/Off Level Control with Delayed Opening and Level Feedback
- Pressure Management with CRD-34 Electronic Pilots and Flow Feedback

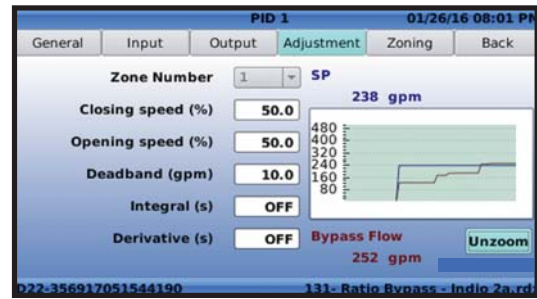


VC-22D Valve Functions



PID Control

Used in maintaining a control valve at setpoint, multiple PID loops can be programmed with each of them offering local or remote setpoints. A real-time chart view helps to visualize valve response and fine tune valve response. Programmable setpoint ramping prevents hydraulic shocks.



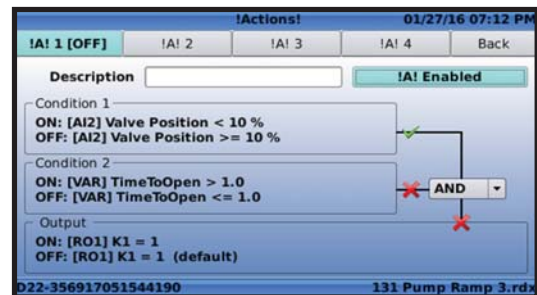
Control Curves

Offers an easy way to create a relationship between two system variables. Using graphical functions, the user draws the control curve relationship linking pressure, flow, level, and/or time directly on the screen. Up to four control curves allowing independent pump control valve opening and closing or tailored modulating level control.



Actions

Used to take "action" (or alarms) when programmable conditions (1 or 2) are met by forcing an output relay, solenoid, or 4-20 mA output. The closing relay can be used to send an alarm to SCADA. Up to four actions can be programmed including deadband.



Retransmission

Used to retransmit any input signal, variable, or calculation to a SCADA system. Up to four input signals such as pressure, flow, or level can be redirected through the 4-20 mA outputs.



Totalizer

Keeps track of total volume as a function of time. Customizable units & reset functionality allow for simplified set-up and configuration. Can be used for volume (or batch) control applications limiting water volume taken from supplier per day or into tank trucks.



DP Metering

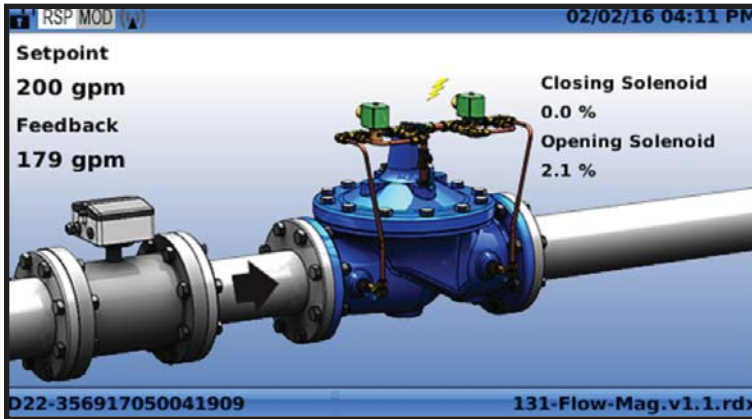
A built-in function to calculate flowrate based on valve position and DP. The returned flow value can be displayed and controlled without a separate flow meter. A metering ValvApp with this feature is included in the standard internal library. All standard Cla-Val valve sizes curves are included.



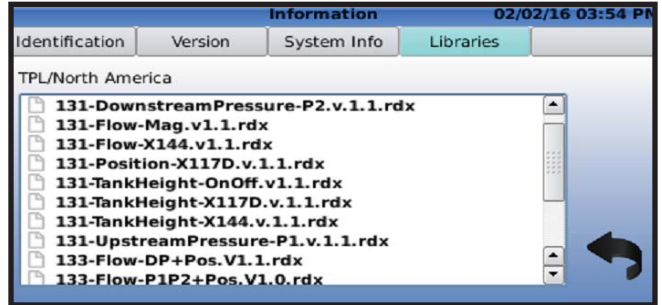
Data Logging and Log File

All input and output values are logged according to a programmable schedule. Default logging is every 5 minutes but can be as low as 1 minute or at customized intervals. 4 GB SD card memory allows greater than 80,000,000 values storage. Data is stored in MS-Excel (CSV) readable format. Transfer is by USB.

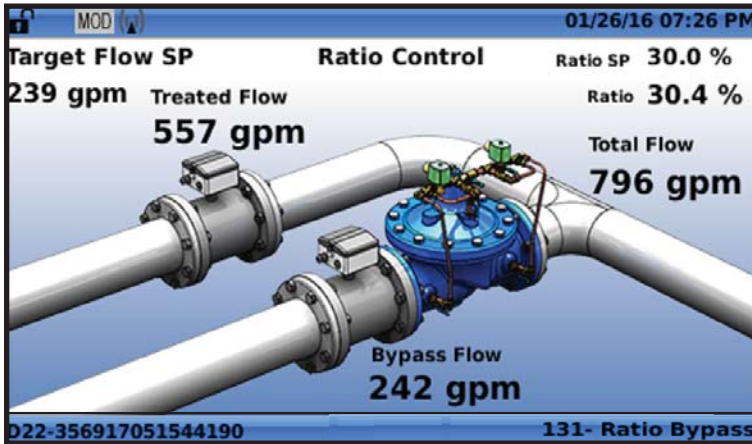
Standard & Custom ValvApps™



Standard ValveApps™



At startup the user can select from an internal library of Standard ValveApps designed for the most common control applications such as flow, pressure, level, position, or pressure management. Pre-configured graphics displays actual valve installation and minimizes startup time.



Custom ValveApps™

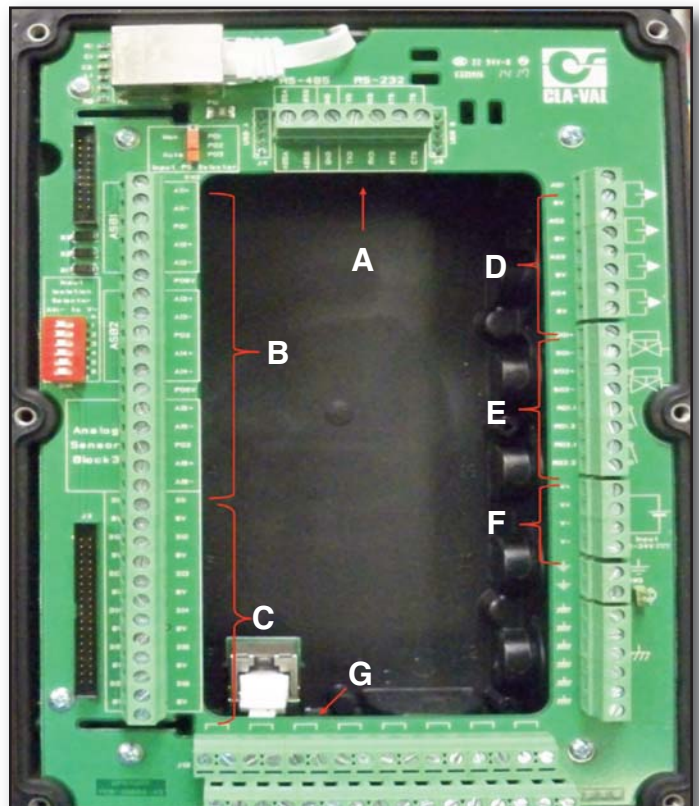
Special requirements can easily be handled by importing Custom ValveApps from the USB port. Program files may be either pre-programmed into the controller or sent by email and downloaded into the controller. All within minutes. Typical non-standard applications include ratio (blending), multiple functions, multiple inputs, custom graphics, differential pressure, temperature, salinity, electrical conductivity, parallel valves, etc.



Inputs, Outputs & Communications

Features

- A) RS-232/485
- B) Six 4-20 mA Analog Inputs
- C) Six Digital inputs
- D) Four 4-20 mA Analog Outputs
- E) Two Solenoid + Two Relay Outputs
- F) 12 - 24 VDC Power
- G) Ethernet Connection (External)



UP-22D Universal Control Panel Product Specifications

| | |
|---|--|
| Inputs | Power Supply |
| 6x Analog 4-20 mA (fused) | 85 - 260 VAC Input |
| 6x Digital (dry contact max 5 VDC @ 0.1A - 100 Hz max) | 60W @ 24VDC to VC-22D Controller |
| Reverse polarity and short circuit protection | AC Filter with Surge Protection |
| Optocoupler isolation @ CMR 1000 V - 2 wires insulated | Communications |
| Outputs | Modbus TCP / Ethernet |
| 4x 4-20 mA Analog (fused) | Modbus RTU / RS-485 |
| 2x Solenoid solid state relay VAC or 24 VDC options | USB |
| 2x Mechanical relay 24 VDC - 240 VAC @ 1 A max. | VNC |
| Reverse polarity & short circuit protection | GPRS modem quad band (consult factory) |
| Control Parameters | Enclosure & Display |
| Proportional band 0-100% / independent opening and closing | 24" (609 mm) H x 20" (508 mm) W x 10" (254 mm) D |
| Deadband 0 - full scale | Weight 55 lbs (25 kg) |
| Cycle time 0 - 60 sec | 304 Stainless Steel |
| Integral and Derivative available | Quarter-Turn Padlock Handle |
| Output limits - % of Cycle Time / Independent opening and closing | Mounting holes on back of enclosure |
| Multi-zone tuning - up to 4 zones | NEMA 4X, IP66 |
| 4x PID loops | 5 mechanical pushbuttons |
| 4x Actions or Alarms - 1 or 2 triggering conditions | Silicon sealed polycarbonate screen |
| 4x Control Curves (graphically programmed) | 4.3" color display 480 x 272 - 24 bit |
| Setpoint ramping | Password 5-digit |
| Input signal filter 0-100% | Temperature range 14 to 158 F (-10 to 70 C) |
| Flow Totalizer (usable for volume control) | |
| Logging & Data Storage | |
| Configurable logging intervals | |
| Real-time back-up on 4 GB SD card | |
| Memory protection 10 year lithium battery | |
| CSV file format MS-Excel compatible | |
| File transfer to USB memory | |